

What I claim is:

1. An improved crystal gels comprising:

(I) 100 parts by weight of

(i) one or more substantially random copolymers (pseudo-random copolymers or interpolymers) having one or more glassy components and at least one substantially crystalline components, wherein said (i) copolymers being in combination with a selected amount of one or more selected second copolymers comprising:

(ii) one or more substantially random copolymers having one or more glassy components and one or more crystalline components of moderate crystallinity;

(iii) one or more substantially random copolymers having one or more glassy components and one or more crystalline components of low crystallinity;

(iv) one or more substantially random copolymers having one or more glassy components and one or more amorphous components;

(v) one or more of a diblock, triblock, multi-arm block, branched block, radial block, or multiblock copolymers, wherein said (v) copolymers having one or more glassy components and one or more elastomeric components of selected crystallinity; and

(vi) one or more of a diblock, triblock, multi-arm block, branched block, radial block, or multiblock copolymers, wherein said (vi) copolymers having one or more glassy components and one or more amorphous elastomeric components;

(vii) a mixture of two or more (ii)-(vi) copolymers;

wherein said (i)-(iii) and (v) copolymers are characterized by sufficient crystallinity as to exhibit a melting endotherm of at least about 25°C as determined by DSC curve, and said crystal gel being characterized by sufficient crystallinity as to exhibit a melting endotherm of at least about 10°C as determined by DSC curve;

(II) in combination with or without one or more of selected homopolymers; and

(III) a selected amount of one or more compatible plasticizers of sufficient amounts to achieve a stable gel having rigidities of from less than about 2 gram Bloom to about 1,800 gram Bloom.

2. An improved crystal gel according to claim 1, wherein said crystalline components having a selected crystallinity capable of exhibiting in differential scanning calorimeter (DSC) a melting endotherm of about 25°C, 21°C, 22°C, 23°C, 24°C, 25°C, 26°C, 27°C, 28°C, 29°C, 30°C, 31°C, 32°C, 33°C, 34°C, 35°C, 36°C, 37°C, 38°C, 39°C, 40°C, 41°C, 42°C, 43°C, 44°C, 45°C, 46°C, 47°C, 48°C, 49°C, 50°C, 51°C, 52°C, 53°C, 54°C, 55°C, 56°C, 57°C, 58°C, 59°C, 60°C or higher.

3. An improved crystal gel according to claim 1, wherein said copolymer of said gel is formed in combination with or without a selected amount of one or more polymer or copolymer of poly(styrene-butadiene-styrene), poly(styrene-butadiene), poly(styrene-isoprene-styrene), poly(styrene-isoprene), poly(styrene-ethylene-propylene), poly(styrene-ethylene-propylene-styrene), poly(styrene-ethylene-butylene-styrene), poly(styrene-ethylene-butylene),

poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, maleated poly(styrene-ethylene-propylene-styrene), maleated poly(styrene-ethylene-butylene-styrene), maleated poly(styrene-ethylene-butylene), maleated poly(styrene-ethylene-propylene)_n, maleated poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, polyethylene, polyethyleneoxide, poly(dimethylphenylene oxide), copolymers of trifluoromethyl-4,5-difluoro-1,3-dioxole and tetrafluoroethylene, tetrafluoroethylene, polycarbonate, ethylene vinyl alcohol copolymer, polyamide or polydimethylsiloxane; wherein said copolymer is a linear, branched, radial, or a multiarm copolymer.

4. A composite comprising a crystal gel of claim 1, where said gel is denoted by G being physically interlocked with a selected material M forming the combination $G_n M_n$, $G_n M_n G_n$, $M_n G_n M_n$, $M_n G_n G_n M_n$, $G_n M_n M_n G_n$, $G_n M_n G_n M_n G_n$, $M_n M_n M_n G_n$, $M_n M_n M_n G_n M_n M_n M_n$, $G_n G_n$, $G_n G_n G_n$, $M_n G_n G_n$, $M_n M_n M_n G_n M_n$, $M_n G_n G_n M_n$, $G_n M_n G_n G_n$, $G_n M_n M_n G_n$, $G_n G_n M_n M_n$, $G_n G_n M_n G_n M_n$, $G_n M_n G_n G_n$, $G_n M_n G_n M_n M_n$, $M_n G_n M_n G_n M_n G_n$, or a permutation of one or more of said G_n with M_n ; wherein when n is a subscript of M, n is the same or different selected from the group consisting of paper, foam, plastic, natural fibers, fabric, metal, metal foil, concrete, wood, glass, glass fibers, ceramics, synthetic resin, synthetic fibers or refractory materials; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

5. A prosthetic device comprising a lower extremity socket insert for below knee or above knee with or without a cuff suspension formed from a gel of claim 1.

6. A prosthetic device comprising a lower extremity socket insert for below knee or above knee with or without a cuff suspension formed from a gel composite claim 4, wherein M is a fabric.

7. A face mask comprising a composite and a non-tacky gel in contact with the face, said gel being a gel of claim 1.

8. A dental floss comprising a gel of claim 1, wherein said floss is formed into a strand, thread, tape, or yarn suitable for use as a dental floss.

9. A crystal gel of claim 1 having a minor amount of at least one an adhesion resin component.